

Riparian Complex ESD Development for BLM Allotment Management

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Introduction

This project is part of a formal Ecological Site Description (ESD) development agreement between BLM and NRCS. The BLM is supporting the development of several ecological sites throughout their jurisdiction including four riparian ESD in northern Utah. The goal is to provide information that will be critical in allotment management and putting monitoring data in context of the ecology of the system.

Roles

BLM provides:

- Funding
- Local knowledge
- Facilitation/Organization
- Access to datasets

NRCS provides:

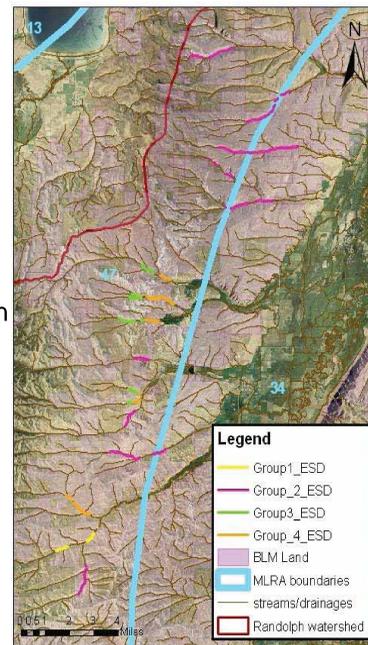
- ESD expertise
- Technical expertise
- Data collection, analysis, interpretation
- Incorporation into ESDs

Utah Riparian Team provides:

- Technical/scientific review

Goals

- 1) To identify, conceptualize, and describe 4 Riparian Complex ESDs (RCESDs)
 - Randolph, UT watershed
 - MLRAs 34AY and 47XA
- 2) To evaluate and refine current RCESD concepts development and methods.



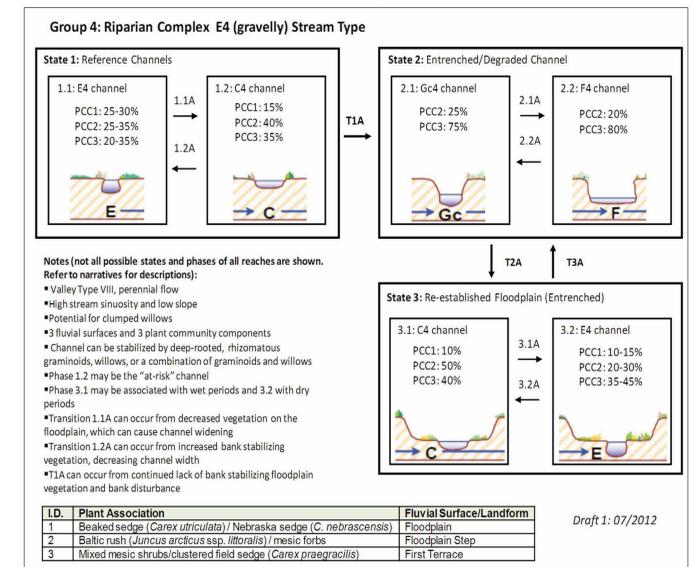
Methods

- 1) Reconnaissance—low intensity, quick traverses
- 2) Initial site concept development
- 3) Data Collection (10 reaches in 2012)
 - Multiple reaches for each RCESD
 - Sampled exclosures
 - Targeted reference or stable analog locations
 - Stream cross sections
 - Pebble counts
 - Fluvial surfaces/soils
 - Vegetation for each PCC
 - Line-point Intercept
 - Production by double-sampling
 - Terrestrial and Aquatic wildlife inventory
- 4) Synthesize data, review and refine concepts



Results

- Data has been collected in 10 locations with two to three locations for each ecological site.
- Three proposed state and transition models have been reviewed and approved for Groups 1, 3 and 4 (see figure below).



- Soil sampling for each fluvial surface will begin spring of 2013
- Data will be analyzed and organized into ecological sites spring of 2013
- Completed riparian ecological sites will be given to the BLM fall of 2013

Field Tour

On July 31-August 2, 2012, the team reviewed the concepts and data for four RCESDs. Participants included BLM Range Management Specialist and Assistant Field Office Manager, NRCS Range Management Specialists, a Utah Riparian Team representative, and NRCS Regional Technical Specialists. The group visited 11 out of 14 total streams. The group also evaluated site delineation and proposed state and transition models for each group.

Group 1



Group 2



Group 3



Group 4



Background

RCESDs are classified based on a fluvial geomorphology hierarchy.

- 1) Valley Type: Rosgen II, Rosgen IV, Rosgen VIII
 - 2) Stream Type: Rosgen Level II
 - 3) Substrate: Size / Parent Material
 - 4) Physiography: Elevation / Slope
 - 5) Duration: Perennial / Intermittent
 - 6) Water Chemistry: Salinity / pH
 - 7) Fluvial Surfaces: Soils / Water Table
 - 8) Soil Temperature Regime
 - 9) Plant Community Components (PCCs)
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Implications and Conclusions

This RCESD development project illustrates the challenge of developing ESDs for complex riparian systems. However, the resulting products provide many benefits to land managers.

Challenges

- Many spatial and temporal variables driving site dynamics
- Few RCESD development examples to follow
- Communicating and reconciling concepts from multiple disciplines
- Time constraints—there is NEVER enough data!

Products

- Four high-quality RCESDs
- Reduced conflict about site potential and dynamics
- Additional feedback for refining RCESD development manual
- Example project to serve as a model for future RCESD work

Conclusion

There is a demand and interest for riparian ecological site descriptions within other federal agencies. NRCS should work towards collaborating with other agencies to further the progress of developing ecological site descriptions.

Reference

Stringham, T. K. and J. P. Repp. 2010. Ecological Site Descriptions: Consideration for riparian systems. *Rangelands* 32:43-48.